Attorney's Docket No. <u>1033048-000051</u>

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	)
	)
Jacob McGuire	) Group Art Unit: 2154
	)
Application No.: 09/843,815	) Examiner: JINSONG HU
	)
Filed: April 30, 2001	) Appeal No.:
	)
For: AUTOMATED DEPLOYMENT	)
AND MANAGEMENT OF	)
NETWORK DEVICES	)
	)
	)

APPEAL BRIEF

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is from the decision of the Primary Examiner dated May 17, 2005, finally rejecting claims 1-4 and 8-21, which are reproduced as the Claims Appendix of this brief.

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James A. LaBarre

_April 7, 2006_____

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I.   Real Party in Interest

The subject application is assigned to Opsware, Inc., formerly known as Loudcloud, Inc.

II.   Related Appeals and Interferences

An Appeal Brief was filed on February 15, 2006, in a related application, No. 09/843,816. As of the date of filing this Brief, an Examiner's Answer has not been received in the related application, and therefore it is not known whether the appeal will proceed to the Board of Appeals in that related application.

III.   Status of Claims

The application contains claims 1-21, all of which are currently pending. Claims 5-7 have been identified as containing allowable subject matter. Claims 1-4 and 8-21 stand finally rejected, and form the basis for this appeal.

IV.   Status of Amendments

There were no amendments filed subsequent to the final Office Action.

V.   Summary of Claimed Subject Matter

The claimed invention is directed to the deployment and management of devices that control the transmission of data over a network, such as switches, routers, firewalls and load balancers. The automated deployment and configuration of these types of devices present issues that differ from the deployment and management of other types of network computer systems, such as servers. A server is designed to be able to execute non-native code, such as an agent. In contrast, devices of the type described above, namely switches, routers, firewalls and load balancers, run on proprietary operating systems that do not facilitate the ability to run agents, or other non-native code, on them. Rather, each of these types of devices must be configured by means of an associated communication interface that is used to send specific commands to it. As

a further complicating factor, each of these different types of devices may utilize a different communication interface. Even if they use the same interface, due to the different functions that they perform, different sets of commands are used to configure them. (Paragraphs 001, 0004-0006 and 0030).

The claims are directed to a system for automatically configuring a plurality of different types of these network devices. In a preferred embodiment of the invention, this automatic configuration is implemented by creating a model, or template, for each device that is to be configured. Referring to Figure 5, the models for each of the devices are stored in a central database 40. When network devices are to be provisioned or configured, the user enters the identification of these devices via a user interface 44. A configuration interface 42 receives the device identification, and in response thereto retrieves the model for that device from the database 40. The model comprises a stored list of values to which each configuration parameter in the device is to be set and, if appropriate, the specific sequence in which the adjustments of these parameters are to take place. Upon retrieving the model from the database 40, the configuration interface 42 constructs a sequence of commands, that are stored in a queue. These commands are sequentially retrieved from the queue, and presented to a library containing a set of generic commands that can be applied to the devices. This library cooperates with a set of plug-in modules that correspond to the respective devices. Upon receipt of a command from the configuration interface, the library and plug-in module function to convert the generic command into a device-specific command, which is then transmitted to the designated device. (Paragraphs 0035-0037).

The details of the library and plug-in modules are illustrated in Figure 4, and described in paragraphs 0031-0034 of the specification.

VI.   Grounds of Rejection to be Reviewed on Appeal

The final Office Action presents two grounds of rejection for review on this appeal:

     1.   Claims 1-4, 8, 9, 11, 12, 14, 16, 17, 20 and 21 stand rejected under 35 U.S.C. § 102(e) as being anticipated by the Merchant et al patent application publication (US 2002/0128815);

     2.   Claims 10, 13, 15, 18 and 19 stand finally rejected under 35 U.S.C. § 103, as being unpatentable over the Merchant publication in view of "Official Notice".

VII.   Argument

    A.   Rejection Under 35 U.S.C. § 102

       1.   Claims 1 and 16

As stated in MPEP § 2131, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference", quoting *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The final Office Action does not meet this standard, since it fails to identify where the Merchant publication discloses "each and every" element recited in the claims.

Claim 1 recites a library of generic commands that can be applied to different types of network devices, and converters that convert the generic commands into device-specific commands. The claim further recites a database storing configuration parameters for the network devices, and a configuration interface which receives said parameters from said database and issues generic commands to said library.

In rejecting the claim, the Office Action refers to elements 410 and 412 in Figure 4 of the Merchant publication as the claimed database. However, the reference does

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not disclose, nor otherwise suggest, that these elements constitute a database storing configuration parameters. Rather, they are respectively described as a device-specific module that "provide[s] information that allows the device-independent commands to be translated to device-specific commands" and as a host-specific module that "provide[s] information that allows the host-independent commands to be translated to device-specific commands" (Paragraphs 44 and 45). In other words, these modules are the components that perform the functions described in Paragraph 29 and Paragraph 43, lines 6-10, which were cited in the Office Action in connection with the claimed converters. The only function described in the reference for these modules is that of converting device-independent commands into device-specific commands. There is no teaching in the reference to support the assertion that they comprise a database storing configuration parameters for network devices. The reference does not disclose this claimed element.

Claim 1 recites a configuration interface "which receives said parameters from said database and issues generic commands to said library ..." The final Office Action refers to the Merchant publication at paragraphs 21-23, 25 and 28-32. Appellant is unable to find any teaching of the claimed subject matter in these portions of the reference, or elsewhere within its contents. In particular, there is no disclosure of an interface that receives configuration parameters from a database. (As noted above, the publication does not disclose a database storing configuration parameters.) Nor is it apparent from the Office Action what elements in the Merchant publication are considered to be an interface that issues generic commands to cause network devices to be configured in accordance with received parameters. There is no supportable showing that the reference discloses a configuration interface that operates in the manner recited in claim 1.

For at least these reasons, the final Office Action fails to meet the requirements for rejecting claim 1 as being anticipated by the Merchant publication, since it does not show that "each and every element" of the claim is described in the reference. For the

same reasons, claim 16 is not anticipated. It recites a method that includes the
following steps, among others:

> retrieving a set of parameters from a database that pertains to
> the configuration of one type of network device; and

> in response to receipt of said set of parameters, issuing generic
> commands to said library to cause a device of said one type to be
> configured in accordance with said parameters.

Since the Merchant publication does not disclose a database that stores information
pertaining to the configuration of network devices, it cannot be interpreted to disclose
the claimed "pertaining" step. Likewise it does not disclose the step of issuing
commands to cause a device to be configured "in accordance with said parameters".

> 2.   Claims 2-4, 8, 9, 11, 12, 14, 17, 20 and 21

Claim 2 recites that the interface issues commands to the library to obtain
configuration information from individual devices, "and stores said information in said
database." In rejecting this claim, the final Office Action refers to paragraphs 31 and 32
of the Merchant publication. While this portion of the reference discloses that
configuration information is obtained from the devices, it does not disclose that such
information is stored in a database of configuration parameters. Rather, it only
discloses that the responses provided by the devices are used to generate device/host
independent commands.

Claim 3 recites that the configuration parameters are stored in the database as a
model containing a list of values to which each configuration parameter in an individual
one of the devices is to be set, and claim 4 recites that the model also identifies the
specific sequence in which the setting of the parameter values is to take place. These
claims are rejected with reference to module 410 shown in Figure 4 of the Merchant
publication, as well as paragraph 44, lines 8-11. However, this portion of the reference
has nothing to do with the storage of a model in a database. Rather, as noted

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previously, it describes that the modules 410 relate device-specific commands to device-independent commands. There is no discussion of a database, let alone the particulars of a model that might be stored in such a database.

Claim 8 recites that the interface functions to command a console server to send a message to each console connected to the console server, analyze a response to the message that is provided by each console to determine the type of device which transmitted the response, and display a list of device types corresponding to the consoles connected to the console server. This claim is rejected with reference to paragraphs 31 and 32 of the Merchant publication. As discussed above, this portion of the reference discloses that the devices can be queried, and that the responses provided by the devices are used to generate device/host independent commands. There is no teaching of determining device types from those responses, or of "displaying a list of device types corresponding to the consoles", as recited in the claim.

Claim 9 recites that the system includes a memory storing a template which contains a sequence of commands for configuring each of a plurality of devices of a given type, and that each command that refers to a particular device contains a variable as the identification of the device. The claim also recites that the database stores a record which indicates the respective network address of each specific device for which a given device is to be configured, and that the interface is responsive to a command to configure a given device to retrieve the template and the stored record associated with a given device, substitute the network addresses in the retrieved record for the variables in the template, and issue commands to configure the given device in accordance with the retrieved record and the template. Claims 11 and 12 depend from claim 9, and recite further specifics of the templates.

The rejection of claim 9 is based upon paragraphs 29, 32, 33 and 44-46 of the Merchant publication. None of these portions of the reference discloses the use of a template, nor the substitution of network addresses stored in a database for variables in

the template, to generate the commands that are sent to a device. Nor does the final Office Action explain how they might be interpreted to disclose such subject matter. There is simply no support in the reference for the rejection of claims 9, 11 and 12.

Claim 14 recites that the converters transmit the commands in accordance with a transmission protocol that is specific to the individual devices. The rejection of this claim refers to steps 220 and 222 illustrated in the flowchart of Figure 2 of the Merchant publication. These elements of the reference pertain to the translation of device/host-independent commands into device-specific commands. The reference is silent as to the protocol that is used to transmit the commands. As such, it does not describe the subject matter recited in claim 14.

Claim 17 recites that the converters comprise respective plug-in modules that are registered with the library to receive generic commands directed to the devices with which they are associated. The final Office Action states that this claim is rejected "for the same basis as claims 1-4 ..." (Office Action at page 4, section 11). However, claims 1-4 do not recite the details of the converters that are set forth in claim 17, and the rejection of claims 1-4 does not indicate where the reference might teach the use of plug-in modules as recited in claim 17. As such, the Office Action fails to identify any support in the reference for the rejection of claim 17.

Claims 20 and 21 are also rejected for the same reasons as claims 1-4. For the reasons presented previously with respect to the rejection of claims 3 and 4, the Merchant publication does not anticipate the subject matter of claims 20 and 21.

B.   Rejection under 35 USC § 103

The rejection of each of claims 10, 13, 15, 18 and 19 is based on the assumption that "Merchant teaches the invention substantially as claimed in claim 1." However, as discussed above, this is not the case. There are at least two elements of claim 1 that are not described, either explicitly or implicitly, in the reference. As such, the rejection

of claims 10, 13, 15, 18 and 19 is not sustainable because it is based upon in unsupported assumption.

VIII.   Claims Appendix

See attached Claims Appendix for a copy of the claims involved in the appeal.

IX.   Evidence Appendix

There is no Evidence Appendix for this Brief.

X.   Related Proceedings Appendix

There is no Related Proceedings Appendix for this Brief.

XI.   Conclusion

The rejection under 35 USC § 102 fails to show that the Merchant publication describes "each and every element" of the rejected claims. Since the rejection under 35 USC § 103 is derived from the rejection under 35 USC § 102, it is also unsupported.

The rejections are not properly founded in the statute, and should be reversed.

Respectfully submitted,
Buchanan Ingersoll PC

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VIII. CLAIMS APPENDIX

The Appealed Claims

1.   A system for automatically configuring a plurality of different types of network devices, comprising

a library of generic commands that can be applied to said devices and converters for converting each of said generic commands into device-specific commands to be applied to individual network devices;

a database storing configuration parameters for said plurality of network devices; and

a configuration interface which receives said parameters from said database and issues generic commands to said library to cause individual ones of said devices to be configured in accordance with said parameters.

2.   The system of claim 1 wherein said interface issues commands to said library to obtain configuration information from individual devices, and stores said information in said database.

3.   The system of claim 1 wherein said configuration parameters are stored in said database as a model containing a list of values to which each configuration parameter in an individual one of said devices is to be set.

4.   The system of claim 3 wherein said model also identifies the specific sequence in which the setting of the parameter values is to take place.

8.   The system of claim 1 wherein said interface includes:

means for commanding a console server to send a message to each console connected to said console server;

means for analyzing a response to said message provided by each console to determine the type of device which transmitted said response; and

means for displaying a list of device types corresponding to the consoles connected to said console server.

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9.   The system of claim 1 further including a memory storing a template which contains a sequence of commands for configuring each of a plurality of devices of a given type, wherein each command that refers to a particular device contains a variable as the identification of the device; and wherein:

said database stores a record which indicates the respective network address of each specific device for which a given device is to be configured, and

said interface is responsive to a command to configure a given device for retrieving said template and the stored record associated with said given device, substituting the network addresses in the retrieved record for the variables in said template, and issuing commands to configure the given device in accordance with said retrieved record and said template.

10.   The system of claim 9 wherein said network addresses comprise Internet Protocol (IP) addresses.

11.   The system of claim 9 wherein a plurality of templates are stored in said memory, each corresponding to a different respective type of device.

12.   The system of claim 11 wherein said templates are stored in said database.

13.   The system of claim 3 wherein each parameter setting in said model is used to construct a separate command, and said commands are stored in a queue to be individually retrieved and forwarded to said library by said interface.

14.   The system of claim 1 wherein said converters transmit each of said commands in accordance with a transmission protocol specific to the individual devices, respectively.

15.   The system of claim 14 wherein one of said transmission protocols comprises Telnet.

16.   A method for automatically configuring a plurality of different types of network devices, comprising the following steps:

storing a library of generic commands for configuring said devices;

Claims Appendix - 2

linking a plurality of converters respectively associated with different ones of said network devices to said library, to convert said generic commands into device-specific commands to be applied to the associated devices;

retrieving a set of parameters from a database that pertains to the configuration of one type of network device; and

in response to receipt of said set of parameters, issuing generic commands to said library to cause a device of said one type to be configured in accordance with said parameters.

17.   The method of claim 16, wherein said converters comprise respective plug-in modules that are registered with the library to receive generic commands directed to the devices with which they are associated.

18.   The method of claim 16, wherein the step of issuing generic commands comprises the steps of:

generating a corresponding generic command for each parameter in the retrieved set of commands;

storing the generated commands in a queue;

presenting a first command in the queue to said library, to be converted and transmitted to the device as a device-specific command; and

in response to a reply to the transmitted command, presenting the next command in the queue to the library.

19.   The method of claim 18, wherein the reply to one of the transmitted commands contains information describing the configuration of the device, and further including the step of storing said information in the database.

20.   The method of claim 16, wherein said set of parameters defines a model containing values to which configuration parameters of the device are to be set.

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21.   The method of claim 20, wherein said model identifies a specific sequence in which the setting of the parameter values is to occur.

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